



Annual Review 2012-13

Saving and improving lives

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About NHS Blood and Transplant

NHS Blood and Transplant (NHSBT) is a Special Health Authority, dedicated to saving and improving lives through the wide range of services we provide to the NHS.

We are responsible for:

- Encouraging people to donate organs, blood, stem cells and tissues
- Optimising the safety and supply of blood, organs, stem cells and tissues and matching them to patients
- Helping to raise the quality, effectiveness and clinical outcomes of blood and transplant services
- Providing expert advice to other NHS organisations, and to the health departments of the four UK countries
- Commissioning and conducting research and development to improve outcomes for patients
- Implementing relevant EU statutory frameworks and guidance.

Our challenge is to provide a safe and reliable supply of blood components, diagnostic services and stem cell services to hospitals in England and North Wales and tissues and solid organs to hospitals across the UK.

Our ambition is simple – to be the best organisation of our type in the world.

We are grateful to our donors who generously provide the donations vital to so many patients. We are proud to support altruistic donation and in 2012-13 our donors contributed:

- 1.9 million units of blood
- 4,208 organs
- 5,800 tissue donations
- 2,000 banked cord blood units
- 188 adult stem cell donations.

These precious donations helped save and improve thousands of lives.

Strategy

Our 2013-18 plan is focused on:

- Delivering a modern world class blood service for England and North Wales that is responsive and attractive to donors
- Working with NHS hospitals so that NHSBT services are as accessible and effective as possible
- Achieving a better integrated and planned end-to-end blood supply chain from donor through to hospital blood banks
- Matching world class performance in organ donation and transplantation by building on the progress of the last few years and launching an ambitious long-term strategy for the whole of the UK
- Building on unique skills and capabilities in tissues, stem cells, diagnostic and apheresis services to deliver high quality, cost effective therapies for patients.



The plan builds on our track record of success in recent years, but is no less ambitious in our determination to further improve the blood services we provide; increase the rates of organ transplantation to match the best in the world; extend the benefits available from our unique combination of diagnostic and therapeutic expertise; and work with hospitals to secure the best possible patient blood management.

To learn more go to:
www.nhsbt.nhs.uk/strategicplan/

Chief Executive and Chairman's Introduction

Welcome to NHS Blood and Transplant's Annual review for 2012-13. In this review we share with you the breadth and depth of our activities and the progress we are making towards our goal to be the best organisation of our type in the world.

2012-13 saw us meeting some ambitious targets:

- More than 3,100 lives were transformed by deceased donors as the NHS hit the 50% increase in deceased organ donation, the challenge set by the Organ Donation Taskforce in 2008
- Further efficiencies meant we could reduce the cost of red cells to £122 per unit for 2013-14
- Hospital customer satisfaction¹ reached 68%, an increase of 9% on the year and notably better than the target of 60%
- Since 2008-09 processing productivity has risen by 62% and testing productivity by 67% now ranking amongst one of the most productive in the world
- We successfully increased blood stocks by 30% to manage the impact of one-off events during 2012, notably the Queen's Diamond Jubilee, the European Football Championship and the London Olympic and Paralympic Games
- The second National Blood Week kicked off with 23,000 calls to our helpline on the first day delivering an 84% increase in appointments booked and a 216% increase in new donor enrolments
- Pass It On was the theme of National Transplant Week 2012 and our first competition for young film makers. The week's promotional activities and media coverage resulted in 13,366 new people joining the NHS Organ Donor Register, a 19% increase on the previous year
- Our campaign to recruit 100,000 blood donors in 100 days closed on Valentine's Day with nearly 120,000 new donors signing up
- In September 2012 our staff met an unprecedented challenge when our main blood centre at Filton flooded, following well tested contingency plans we recovered quickly ensuring no loss of service to hospitals and patients who continued to get the blood they needed

¹ When measured as the percentage of hospitals scoring nine out of ten or higher for overall service.

- In February 2013, NHBST worked closely with ITV to launch a major campaign promoting organ donation. As a result of the campaign over 60,000 new people joined the NHS Organ Donor Register.

We are proud of our achievements during the year and will build on this to deliver greater benefits to patients in the years to come. Our success is only possible due to the generosity of the many donors across the country who donated to save the lives of those who are often strangers to them. Through the expertise of our staff we are able to transform those precious donations into life saving and enhancing high quality treatments that benefit patients across the UK.

Our heartfelt thanks to every donor and also to every family who, at a great time of sadness, supported their loved one's wish to donate their organs and tissues and transform the lives of others.



Bill Fullagar

Bill Fullagar
Chairman



Lynda Hamlyn

Lynda Hamlyn
Chief Executive

And finally, Bill Fullagar, the first Chairman of NHS Blood and Transplant, retired at the end of May 2013.

John Pattullo takes on the role of Chairman and the challenge to help us realise our ambition to be the best organisation of our type in the world.

A personal note

I hope that I have contributed towards building a competent, self-confident and ambitious team which sets itself high targets and delivers.

I'm very proud of the fact that our productivity and efficiency levels have improved over the years, which has helped save money for the wider NHS to reinvest in patient care. To make these efficiencies, however, sometimes involved making difficult decisions and I am very conscious of the effects of these changes on the lives of colleagues working in NHSBT.

We have virtually eliminated crises in blood stock levels while at the same time driving down the unit price of blood year on year. This is to the credit of hard working staff who continued to deliver through a period of great change.

In organ donation every extra organ retrieved means extra lives saved or improved, the fact that we have met the target of increasing the number of deceased organ donors by 50% in the last five years is an achievement of which we can all be proud.

I am also delighted that during my time with NHSBT we had the official opening of the centre in Speke housing the largest tissue bank in Europe and the successful completion of the Filton Centre, regarded as among the largest and most modern blood processing units in the world.

I am proud of what we have achieved together and I am confident NHSBT will go from strength to strength saving and improving the lives of many more people over the years to come.

Bill Fullagar

A handwritten signature in white ink on a blue background. The signature is written in a cursive style, with the first name 'Bill' and the last name 'Fullagar' clearly legible.

Sustainability

Sustainable development

During 2012-13 we continued to implement our Carbon Management Plan designed in partnership with the Carbon Trust. The recently published Carbon Reduction Commitment (CRC) Performance League table, which ranks the relative performance of CRC Energy Efficiency Scheme participants, ranked NHSBT sixth out of more than 2,000 participants in the UK. This places NHSBT as the second highest performing body in the public sector and the highest performing Department of Health/ NHS organisation.

Grey Fleet

NHSBT's 'grey fleet' policy was launched in early 2013. The term 'grey fleet' refers to privately-owned vehicles used by employees for business mileage during the course of their work.

There are around 2,000 members of NHSBT staff using their private vehicles to travel a combined distance of almost six million miles a year.

The new policy requires staff who use their private vehicle for business mileage to register their details and documents. It will allow NHSBT to manage business travel against best practice guidelines and policies, demonstrating a better duty of care to staff and enabling better monitoring of the environmental impact.

Cycle to Work

NHSBT employees boost their health and help to reduce congestion and harmful emissions thanks to our participation in a Cycle to Work scheme.

Like others of its type, the scheme allows employees to save tax and National Insurance contributions on the hire and eventual purchase of a bike.

The scheme sees employees pay the full cost of the bike, any accompanying accessories and a small finance fee, in 12 monthly instalments direct from their pay, which is classed as a hire charge. The instalments are taken before tax, meaning staff pay less Income Tax and National Insurance over the year.

A further 36 members of staff joined the scheme last year, bringing the total now to 122.

People

Learning and Development

During 2012-13 we continued to expand the opportunities available for professional development. SHINE, the NHSBT learning and development programme is open to all NHSBT staff. In 2012-13, two new programmes were added; AIM, (Achieve, Inspire, Motivate) and REACH Positive Action Programme. The AIM course focuses on developing leaders and in turn their teams. REACH Positive Action Programme is similar with a specific focus on understanding and developing strategies to handle the challenges of management and leadership unique to Black, Asian and Minority Ethnic staff and staff members with a disability.

We also delivered 87 scientific and medical training programmes, helping to train and develop external staff. In total, 472 people attended NHSBT courses, 169 in Transfusion Science and 303 in Transfusion Medicine.

Staff views and recognition

We value staff opinion and have been working hard to make sure every employee is heard. The annual staff survey took place at the end of 2012.

Areas of significant improvement included more staff having an appraisal or Personal Development and Performance Review and more staff saying they had clear planned goals and objectives for their work. In addition, a series of Air Your Views events took place giving staff the chance to share ideas about making NHSBT a great place to work. NHSBT runs a Recognition of Excellence scheme to recognise good work on a monthly, quarterly and yearly basis. Nearly 10% of staff have now received recognition through this scheme based on a colleague's submission.



Apprentice Tim Campbell spoke at the REACH programme's first Equality, Diversity & Human Rights Week.

Charity Fundraisers

More than £11,000 was raised for our national charity Cystic Fibrosis Trust in 2012. Many staff donate odd pennies from their payslip through our Pennies from Heaven scheme. The Big Cake Bake also proved very popular amongst staff as a way of raising money for our chosen charities during the year. Local charities have benefited too from the generosity of our staff.

Equality

The Organisation and Workforce Development team are launching a scheme to heighten awareness of disability equality in NHSBT.

The Disability Advocate Scheme outlines our commitment to promoting equality and valuing diversity, being an employer of choice for talented, disabled people and will help ensure that we are fully compliant with the Equality Act 2010.

The main purpose of the scheme is to promote a 'disability confident' culture within our organisation. To achieve this we will be keeping colleagues and managers informed and involved in our disability equality agenda through regular news updates and contact with our Disability Advocates.

Eighteen advocates have been gathered from across our organisation to help promote disability equality issues and provide general information on disability related matters.

The Francis Report

The Francis Report was published in February following a Public Inquiry into standards of care at the Mid-Staffordshire Health Trust making a number of recommendations for improvement.

NHSBT carried out a detailed review and did not identify any issues which required new action. The Report gave added impetus to areas where activities were already underway and on which further work will be built. Particular focus will be on promoting the right culture, which focuses on our role in caring for patients, donors and their families; providing our expertise for patient benefit; and ensuring we provide quality products for patients.



Team award

Catriona Wood, Fiona Curtis and Sylvia Crough from Ashford blood collection team.

Nominated by NHSBT Non-Executive Director George Jenkins who paid an unannounced visit to the team on session in Sandwich. He was greatly impressed by the atmosphere which he described as an energised session with quality staff totally engaged with their donors.

Partnerships

Our partnerships both nationally and internationally are a vital part of our work. In 2012-13 NHSBT and Anthony Nolan were highly commended at the Third Sector Awards for our partnership in creating an aligned registry for bone marrow and stem cell donation. The single registry has improved turnaround times for processing blood samples at Anthony Nolan by 12% and made the process easier for clinicians by providing a single access point. Work undertaken within NHSBT at the British Bone Marrow Registry has resulted in blood samples being provided to transplant centres 25% faster than in the past.

NHSBT has developed a strong international reputation, which allows the organisation to have a credible and influential voice in debates on global health policy relating to blood. In 2012 our Chief Executive, Lynda Hamlyn became the first woman to be elected to the board of the European Blood Alliance following nominations from other blood services across Europe, demonstrating that NHSBT is globally respected by its peers. NHSBT's ongoing membership of the European Blood Alliance and the Alliance of Blood Operators provides access to a large knowledge base that helps to identify opportunities for collaboration and improvement.

In July 2012, we launched a partnership with Dudley Council to promote donation, with a particular focus on increasing registration levels amongst Black and Asian communities. Dudley has made a commitment to increase awareness of the importance of blood and organ donation, encouraging their residents and staff to do what they can to help save people's lives.

A new campaign to mobilise the Christian Church to increase the number of blood and organ donors in the UK is now underway, thanks to a partnership between NHSBT and creative agency KORE.

Dudley Councillor Steve Waltho, Rebecca Timmins, Specialist Nurse – Midlands Team and Councillor Zafar Islam.



Flesh and blood is a two year campaign and marks the first time NHSBT has worked with the Christian Church on a national initiative to promote blood and organ donation. It will raise awareness within the Christian community by working with various denominations and organisations including; the Methodist Church, Baptist Union, Salvation Army, Church of England, Evangelical Alliance and Hope and United Reform Church.


A network of supporters in this broad spectrum of churches will be engaged

in raising awareness among their members and community about the daily need for blood transfusions and organ transplants across the NHS, helping to banish myths, educate people and encourage blood and organ donation.

NHSBT has joined forces with a university society to pilot an approach to promote organ donation, by students to students. The University of St Andrews Organ Donation Society in Scotland are working in partnership with us to raise awareness of organ donation among its students and staff.



St Andrews University Organ Donation Society members. President Nicole Imray (front centre) and the medical and chemistry students painted with the organs that can be donated with Annie Richardson (mother of Alex), Shona Matthew (kidney dialysis patient) and Anthony Clarkson (assistant Director, Organ Donation, NHSBT)



The partnership aims to increase the number of young people who make the choice to help others by joining the NHS Organ Donor Register (ODR) and to promote the importance of discussing their wishes with their friends and families.

In 2012-13 NHSBT launched partnerships with four major NHS hospitals – Blackpool Victoria Hospital; Royal Bournemouth and Christchurch Hospital; Royal Liverpool, Royal Liverpool and Broadgreen Hospitals

and John Radcliffe Hospital – to introduce a pilot scheme to transform the way blood stocks are maintained and delivered in hospitals. The pilot aims to reduce blood wastage by automatically topping up supplies at hospitals to an optimum level triggered by automated stock tracking. It is the first step of a key part of NHSBT's five year strategy to further improve and modernise the blood service by providing an even better service for donors, patients and the NHS.

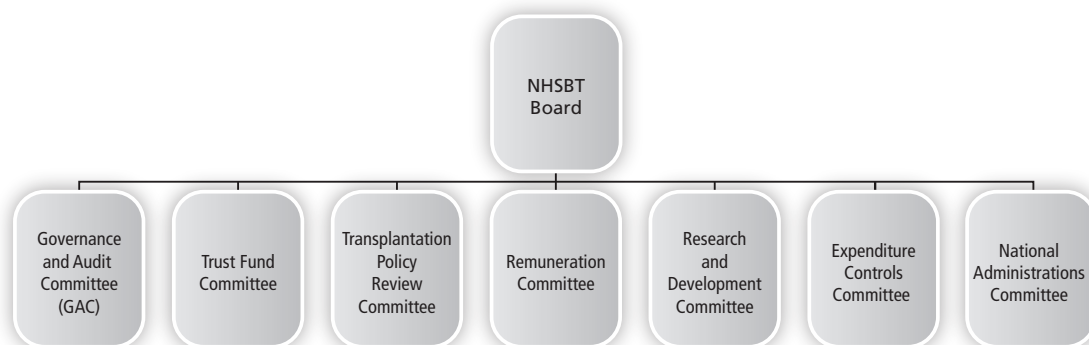
Governance

The NHSBT Integrated Governance Framework formally describes the assurances provided to the Board regarding the delivery of NHSBT's statutory and strategic objectives and the effectiveness of its internal controls and risk management processes. The Framework is also designed to increase awareness of governance at the front line and to demonstrate how the existing processes and activities

undertaken every day by our staff, comprise essential parts of the overall governance processes within NHSBT.

The Integrated Governance Framework provides assurance to the Board under a range of headings including; quality assurance; clinical governance; ethics, equality and safety; financial control and business continuity.

Board Committee Structures



The Governance and Audit Committee reviews systems of governance, risk management and internal control across all of the organisation's activities.

The Trust Fund Committee oversees NHSBT's charitable funds that support organ donation, bone marrow transplant, staff welfare and some research projects.

Transplantation Policy Review Committee reviews policies and standards relating to donor selection, organ donor management, patient selection and organ allocation.

The Remuneration Committee oversees remuneration and other contractual arrangements for the Chief Executive and NHSBT Directors.

The Research and Development Committee advises NHSBT's Board on research activities, and allocates research funds within NHSBT's delegated financial limits.

The Expenditure Controls Committee approves and endorses spending on professional services as required by the Department of Health's expenditure controls.

National Administrations Committee (established during 2012-13) reviews the adequacy of the arrangements by which the policies and implementation issues of all four UK Health Departments with regard to organ donation are managed by the Board.

Directors' Remuneration

Year to 31 March 2013

Name and title	Year to 31 March 2013			Year to 31 March 2012		
	Salary in £5k bands	Other remuneration in £5k bands	Benefits in kind (rounded to the nearest £00)	Salary in £5k bands	Other remuneration in £5k bands	Benefits in kind (rounded to the nearest £00)
	£000	£000	£00	£000	£000	£00
Mr B Fullagar (Chairman)	60-65	–	3	60-65	–	1
Mr A Blakeman (NED)	10-15	–	–	5-10	–	–
Ms D Burnside (NED) ended 31 July 2012	0-5	–	–	5-10	–	–
Dr C Costello (NED)	5-10	–	–	5-10	–	–
Mr J Forsythe (NED)	5-10	–	–	5-10	–	–
Mr R Griffins (NED)	5-10	–	–	0-5	–	–
Mr G Jenkins (NED)	5-10	–	–	10-15	–	–
Mr J Monroe (NED) commenced 11 February 2013	0-5			–	–	–
Mr S Williams (NED)	5-10	–	–	5-10	–	–
Ms L Hamlyn (Chief Executive)	180-185	–	7	180-185	–	8
Ms L Austin (Director of Communications)	105-110	–	1	105-110	–	–
Mr R Bradburn (Finance Director)	130-135	–	25	130-135	–	23
Mr M Cox (Interim Director of Logistics) commenced 14 February 2013	5-10		–	–	–	–
Mr D Dryburgh (Group Director of Estates and Logistics) ended 17 February 2013	90-95	–	10	100-105	–	26
Mr D Evans (Director of Workforce)	115-120	–	10	115-120	–	33

Name and title	Year to 31 March 2013			Year to 31 March 2012		
	Salary in £5k bands	Other remuneration in £5k bands	Benefits in kind (rounded to the nearest £00) £00	Salary in £5k bands	Other remuneration in £5k bands	Benefits in kind (rounded to the nearest £00) £00
	£000	£000		£000	£000	
Ms S Johnson (Director of Organ Donation and Transplantation)	120-125	–	–	120-125	–	–
Mr A McDermott (Director of Blood Donation) ended 15 August 2012	110-115	–	2	120-125	–	17
Mr M Potter (Director of Business Transformation Services)	105-110	–	17	100-105	–	5
Dr C Ronaldson (Director of Patient Services)	135-140	–	17	130-135	–	14
Dr H Williams (Director of Diagnostics and Therapeutic Services) commenced 4 February 2013	20-25	–	2	–	–	–
Dr Lorna Williamson (Medical and Research Director)	205-210	–	–	205-210	–	1

Notes

NED = Non-Executive Director

Other remuneration relates to performance related pay earned in 2009-10 and paid in 2010/11. There were no bonuses earned or paid in 2011-12.

Benefits in kind were in relation to the provision of cars and are stated in round £100s not £1,000s.

Board Members serving during the period 1 April 2012 to 31 March 2013:

Chairman

Mr Bill Fullagar

Non-Executive Directors

Mr Andrew Blakeman

Ms Della Burnside
(period 1 April 2012 to 31 July 2012)

Dr Christine Costello

Prof John Forsythe

Mr Roy Griffins

Mr Jeremy Monroe
(commenced 11 February 2013)

Mr George Jenkins

Mr Shaun Williams

Executive Directors

Ms Lynda Hamlyn
Chief Executive

Mr Rob Bradburn
Finance Director

Ms Sally Johnson
*Director of Organ Donation and
Transplantation*

Mr Alan McDermott
Director of Blood Donation
(period 1 April 2012 to 15 August 2012)

Dr Clive Ronaldson
Director of Blood Supply

Dr Huw Williams
*Director of Diagnostic and Therapeutic
Services (commenced 4 February 2013)*

Mrs Lorna Williamson
Medical and Research Director

Financial Review

Internally within NHS Blood and Transplant, including to our Board, we report on an income/expenditure basis. This reflects the nature of our operations and that more than 80% of our income derives from the sales of our products and services (at cost) to NHS hospitals. Prices are set annually via a national commissioning process and are based on volume assumptions for the products and services in the year ahead. On this basis we also include grant-in-aid received from the Department of Health as income. This represents 14% of our income with nearly 90% of this used to fund our activities within Organ Donation and Transplantation. On an income/expenditure basis NHSBT reported a surplus of £2.7 million in 2012-13.

NHS Blood and Transplant is, however, treated as a Non Departmental Body (NDPB) under the Government Financial Reporting Manual (FReM). This requires our published accounts to be presented on a "net expenditure"

basis with grant-in-aid received from the Department of Health recognised in the general reserve. Note 2 within our published accounts reconciles the different accounting approaches and also provides an income and expenditure analysis for our different operational segments. The segmental analysis reports an operating deficit of £3.8 million for our specialist services (diagnostics, tissues, stem cell and specialist therapeutic services), offset by surpluses in blood components and organ donation and transplantation.

In 2012-13 an initial allocation of £61.9 million grant-in-aid was made of which £55.2 million was allocated to Organ Donation and Transplantation with the balance supporting the activities of the International Blood Group Reference Laboratory and the development of the NHS Cord Blood Bank. During the year we were unable to gain approval for marketing activities in support of organ donation and £1.5 million was returned to the Department of Health. In addition, we received £8.5 million from the UK health departments as their contribution towards the costs of our UK wide activity in organ donation and transplantation.

For 2012-13 we were allocated and spent capital funding of £7.5 million. Much of this expenditure is incurred in the continual maintenance of manufacturing and laboratory facilities

and replacement of the manufacturing and testing equipment, and associated IT, that is used to support the operation of the blood and specialist services supply chains.

Figure 1: Total Income £m

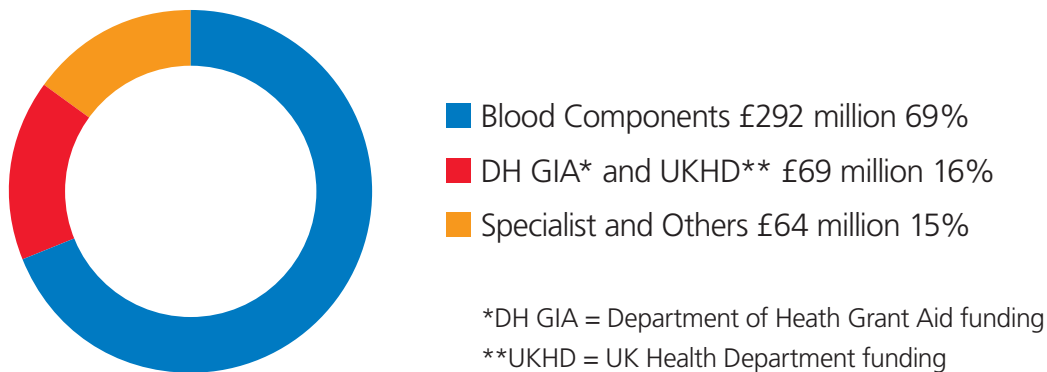
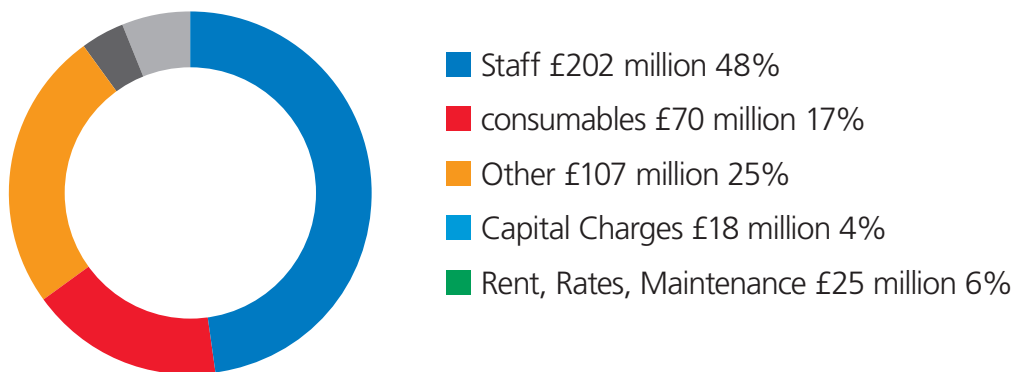


Figure 2: Total Expenditure £m



Blood Supply

What we do, performance highlights

Blood supply is a new directorate within NHSBT, which was created by bringing together the functions involved in the collection, manufacturing and issuing of blood. This new structure allows NHSBT to manage the supply of blood from donor through to hospitals under one management team.

Key achievements in 2012-13:

We continued to meet demand for blood.

- Significantly improving efficiencies across both our operational and support function have delivered average real cash efficiency savings in excess of 3.5% each year, over the period since 2007-08. As a result NHSBT is now achieving some of the highest productivity levels in the processing and testing of blood in the world

- The cost of red cells, reduced from a high of £140/unit in 2008/09 to a price in 2012-13 of £123/unit (effectively saving in excess of £30 million each year to the NHS). A further reduction to £122/unit has been agreed for 2013-14



- For the second year running, overall blood stock levels never fell below three day's stock for three consecutive days
- Customer satisfaction measured as the percentage of hospitals scoring nine out of ten or higher for overall service, was at 68%, an increase of 9% on the year and notably better than the target of 60%
- We improved our regulatory performance in blood supply operational activities with no major non-conformances raised during the year
- A 30% increase in blood stocks was delivered in anticipation of the impact of one-off events during 2012, including, the Queen's Diamond Jubilee, the European Football Championship and the London Olympics. Our successful marketing and PR campaign, 'Perfect Storm' has won several industry awards
- The second National Blood Week kicked off with 23,000 calls to our helpline on the first day and an increase of 84% in appointments booked and 216% in new donor enrolments over the previous week
- An amazing 119,907 new donors signed up in 100 days. This soundly smashed the target of 100,000 in 100 days, by the time the campaign came to a close on Valentines Day
- In January 2013 NHSBT partnered with Christian churches to promote blood and organ donation through the two year fleshandblood campaign, joining forces with creative agency KORE
- A new standardised blood pack, the Eurobloodpack™ is now available to use, as a result of a collaborative exercise, led by NHSBT, between six countries who are all members of the European Blood Alliance. The project won the Collaborative Procurement Initiative of the Year Award at the National Government Opportunity awards
- We maintained our service to hospitals, despite the temporary closure of our Filton Centre following a serious flood.



All Wales Blood Service

In June 2012, the Welsh Government announced its intention to create an All Wales Blood Service. The aim is to make significant progress towards running a new service by 2014, and for the transition to be completed by 2016. NHSBT is working closely with the Welsh Blood Service and Welsh Government, to ensure a smooth transition and to maintain donor, staff and customer loyalty.

Business Continuity

Business Continuity within NHSBT is led by a team of professional business continuity specialists who are responsible for ensuring that NHSBT remains resilient in the face of disruptive challenges. Such challenges come in all shapes and sizes ranging from equipment failures to UK wide emergencies such as severe weather.

Our plans were put to the test in September, when our Filton centre was inundated by a serious, sudden flood, unprecedented in both magnitude and effect.

Exceptionally heavy rain fell in the Bristol area during the early hours of the morning.

Surface water removal was hampered by the collapse of a drainage culvert at the rear of the site. At 08:30 water was coming into the building and the contingency plans were activated. At 09:40 the Fire Brigade advised the evacuation of the building.

The organisation and its staff met an unprecedented challenge. Staff at every level rolled up their sleeves and did whatever was required to get the job done, helping with evacuating stock, cleaning up departments and generally stepping into roles outside of their normal working practices. Service to hospitals was maintained throughout, with support from colleagues at other centres around the country. We staged a highly successful recovery from what was a potentially catastrophic event, with the centre being opened after just one week and almost fully functional within two weeks of the incident.

Following an extensive debriefing process a number of recommendations and actions have been developed.



In parallel, risk assessments at Filton and other NHSBT sites are being undertaken in light of the lessons learned at Filton.

NHSBT International

Collaboration commenced between NHSBT and Hemorio, the Blood Service for Rio de Janeiro in Brazil to share learning from the London Olympics blood stock build. In July, a meeting was held between the two organisations to assist with Brazil's preparations for the World Cup in 2014 and the Olympic Games in 2016.

NHSBT is a member of the European Blood Alliance (EBA), a voluntary alliance of not-for-profit blood services that contributes to the safety, security and cost-effectiveness of the blood, tissue and cell supply for Europe. The EBA Benchmarking Group, jointly led by NHSBT and the Dutch Blood Service, focuses on identifying and sharing good practices across the blood supply chain.

NHSBT's expertise has been used in 'flying squad' visits where a small group of experts respond to an invitation by an EBA member to conduct a one week 'audit', working with the host service to identify areas

for improvement across the blood supply chain. NHSBT teams have recently visited Estonia, Malta and Finland. Helping to improve services worldwide is a testament to the ever-increasing skills and capabilities of our staff.

We also hosted visitors from abroad, including the Uganda Blood Transfusion Service and Uganda Red Cross, looking for ideas on how to make savings in areas such as marketing, donor recruitment and mobilisation strategies.



Case study: Marketing campaign.

Body Art-ery was an award winning campaign that launched a summer of activity to increase blood stocks by 30% for the Olympic and Paralympic Games.

Focus on Safety

Donor selection criteria, stringent testing of blood donations and advances in technology mean that the UK blood supply is as safe as it reasonably can be.

The UK Blood Services are advised by a specialist committee, the Standing Advisory Committee on Transfusion Transmitted Infection (SACTTI), which reports to the United Kingdom Blood Transfusion Services/Health Protection Agency Joint Professional Advisory Committee (JPAC). Members of SACTTI are experts in the field of blood transfusion and in transfusion-transmitted infection, and include representatives from the Health Protection Agency (now Public Health England), academic virology, bacteriology and parasitology and epidemiologists. The members of SACTTI, through well-established international connections with other blood services and infectious disease surveillance support by the Joint NHS Blood and Transplant/Health Protection Agency Epidemiology Unit, are alerted

to outbreaks of infection and emerging infections outside the UK. SACTTI produces risk assessments which are considered by JPAC, and on which advice is issued to UK Blood Services.

Additionally the UK Government receives expert advice from the Advisory Committee on the Safety of Blood, Tissues and Organs (SaBTO) on the most appropriate ways to ensure the safety of blood, cells, tissues and organs for transfusion/transplantation.

SaBTO and the National Expert Panel on New and Emerging Infections (NEPNEI), monitor developments, both nationally and internationally, in conjunction with the UK Blood Services and the Health Protection Agency. All risk assessments are regularly reviewed, and if new evidence comes to light which means that risk assessments need to be amended, then this is done.

There have been no confirmed reports of Transfusion Transmitted Infections (TTI) as a result of bacterial contamination in the past year (and none since 2009). There have been four confirmed cases of Transfusion

Related Acute Lung Injury (TRALI) in 2012-13 (one case recorded in 2011-12). This syndrome is characterised by acute respiratory distress following transfusion. All four patients recovered and there were no failures in NHSBT safety measures that were identified as root causes.

West Nile Virus

During 2011, more countries were declared high risk for West Nile Virus. This meant deferral of far more of our donors than has previously been the case, as high risk areas, in addition to the US and Canada, now included mainland Greece, Romania, Israel, Albania and Russia.

Modelling of spread of the mosquito that carries WNV has shown that further areas which may become high risk include major tourist destinations for the UK population, specifically France, Spain, Portugal, Southern Italy and Greece as well as parts of Turkey. The EU directive meant that donors returning from high risk areas had to be deferred from donation for 28 days, following their return to the UK.

We sought and were granted a derogation from the directive that would allow testing of donors returning

from the high risk areas between 1 May and 30 November, rather than deferral. During these months in 2012, we carried out more than 28,000 tests on donors, all with negative results.

INTERVAL

A ground-breaking study which could shape the future of blood donation nationally and internationally, providing a personalised service for donors, started in 2012.

INTERVAL, the first study of its kind in the world, will gather evidence from 50,000 blood donors. The participants will be randomised and give blood at different intervals to see if the length of time between blood donations can be tailored to individual donors, based on factors such as age, weight, diet and inherited factors.

The study is being run by the Universities of Cambridge and Oxford in collaboration with NHSBT. INTERVAL is taking place in the 25 fixed donor centres run by NHSBT across England, with the research project forming part of routine practice at those centres. England is one of the few countries which can run a study of this size due to NHSBT operating as a single organisation with standard practices across all donation venues.

Hepatitis E study

NHS Blood and Transplant (NHSBT) is working with the Health Protection Agency (now Public Health England) to carry out a study into hepatitis E virus (HEV). The results of the study will help NHSBT to understand whether and how often HEV can be passed on by blood transfusion.

HEV is a virus that can infect humans and cause inflammation of the liver (hepatitis). It usually produces a mild illness and many people will be unaware that they have been infected. Donors in Eastern England who test positive for HEV will be invited to take part in the study.

Donors of the future

People born after 1 January 1996 and who are eligible to donate blood on their 17th birthday after 1 January 2013, will probably not have been exposed to vCJD via the food chain, as measures were put in place to protect the food chain from this point onwards. Initially, supplies from these young donors will be limited and to begin with will be prioritised for babies and those born on or after 1 January 1996. In time, as the number of young donors grows, it is expected that supplies will increase and blood products will become available for a widening range of patient groups.



Case study: Ava Hope Hughes and her mum Vicky Hughes.

Ava was born in August 2012, with a serious heart abnormality and had her first operation at just three days old. A serious bleed followed further open heart surgery in March 2013 and Ava received more than 30 units of blood and platelets before she stopped bleeding and was stable.

She's doing really well now after the operation, although she may require further surgery in the future. Her mother Vicky is very grateful to blood and platelet donors for their vital donations.

The Donor Experience

Seven thousand donors give blood every weekday; some also choose to become stem cell donors. Our priority is to ensure that we care for those generous individuals as best as we possibly can. In 2012-13 our donors contributed 1.9 million units of blood and 2,000 banked cord blood units. These precious donations helped save and improve thousands of lives.

Our aim is to provide donors with an accessible, safe and appealing service so they can give blood at a convenient time for them. We have 25 fixed blood donation centres across England and 88 mobile blood collection teams running about 25,000 blood collection sessions in the community. Our challenge is to attract donors in sufficient numbers at the right time and from the right blood group mix to match the needs of hospital patients. It is important for us to have the flexibility to respond to changing demand and collect more or less blood as required.

A Session Consolidation pilot began, aiming to reconfigure blood collection activity served by the Newcastle and Teesside teams to run fewer, larger sessions to improve the collection of blood while maintaining the opportunity for donors to donate. This pilot is a key initiative towards achieving productivity and efficiency targets.

We know that our donors support the need to balance efficiency with convenience which means we sometimes have to make difficult decisions about how and where we collect blood. In the future we will see a balance towards operating more sessions in venues with a larger numbers of beds. As a result, blood collection teams may visit some venues less often than before and we may invite some donors to change venue to another close by. However, we will offer more donor beds with a mixture of pre-booked and walk-in appointments so that people can donate in ways that fit with their lifestyles.

Over the last year we have invested in donor safety and comfort with the rollout of new donor chairs (which will be completed in August 2013). We have also refurbished and modernised a number of our fixed donor centres to make them more welcoming and attractive environments.



There is now an 'app' that enables donors to find their nearest blood sessions on their smart phones and tablets; and during 2013 we will launch a new service allowing donors to access our information and to book appointments on-line.

We are always conscious that donating blood is a voluntary act and we will continue to celebrate this commitment – in part through developing our donor awards programme in response to donors' suggestions and ideas.

Case study: Goodfellow family.

In October 2010, twins Kyle and Lydia had just started school, but it soon became clear that Kyle wasn't well. To Simon and Jane's horror, the diagnosis was Acute Lymphoblastic Leukaemia (ALL).

Before Kyle's illness, Simon and Jane had a list of excuses for why they had never given blood: fear of needles, fainting, rejection and the assumed hassle of registering to become a donor.

Says Simon, "It's been one of those things that I have always wanted to do but I had nothing that inspired me. It took Kyle's diagnosis to spur me and Jane on."

"I'd say don't let anything get in the way. Don't use basic excuses like time, as you can make time. Whatever we have going on in our lives we go and do it. There's nothing to worry about, it's not painful.

"Thank you to everyone who contributed to Kyle's early treatment needs. We feel like we have wasted years of blood and I wish it didn't have to take something like this to start giving."

The Customer Experience

A key area of work is developing our relationships with hospitals to improve the customer experience.

Better Blood Transfusion (BBT) initiatives

NHSBT works with hospitals, delivering the actions in the Health Service Circular (HSC) – Better Blood Transfusion (2007). These actions can only be delivered through effective collaboration between NHSBT and hospital Trusts.

NHSBT supports clinical colleagues in Trusts to promote the safe and appropriate use of blood components. Our Better Blood Transfusion Teams are responsible for leading national and regional initiatives aimed at promoting safe and effective transfusion practice. These teams present blood issue data to hospitals to benchmark activity and reduce inappropriate use and wastage and are working towards gaining a greater understanding of the clinical reasons for blood use to inform demand planning.

In July 2012, Sir Bruce Keogh, NHS Medical Director, addressed an audience of influential clinicians representing a number of blood user specialities at NHSBT's conference Patient Blood Management – The Future of Blood Transfusion.

Sir Bruce said: "Blood is a precious gift from generous donors and should only be used when necessary. One in five blood transfusions isn't necessary so it's important that doctors only prescribe transfusions when they're really needed. This is better for patients and ensures that demand for blood can be met in the future."

The BBT Team is also leading the ongoing development of transfusion e-learning in the NHS – making it available for all healthcare staff. Our staff are working with other national groups to increase patient and public awareness of transfusion issues and have been involved in writing patient information leaflets and developing web pages.

Integrated Transfusion Services (ITS)

ITS is an innovative area of work, aiming to transform the relationship between NHSBT and hospitals by integrating practices and driving improvements. The three key projects are Stock Management, Supply Chain Optimisation and Transfusion Innovation.

Stock Management involves trying out a new stock management model and analysing the potential benefits, which could include greater efficiency of the supply chain, reduced costs, a better understanding of demand and reduced wastage. Three pilot schemes are in progress with data also being collected from ten other hospitals. The first phase is data sharing, with the second stage seeing NHSBT taking responsibility for replenishing stocks helped by automated IT systems.

Supply Chain Optimisation centres on using the business system, Sales and Operational Planning, to develop ways of capturing information to understand long-term demand from hospitals and use this to plan for the future. A trial is ongoing in the North West of England.

Transfusion Innovation focuses on meeting the current and future needs of hospital laboratories. NHSBT has significant expertise in a number of areas in Red Cell Immunohaematology and this project looks at how best to continue providing these services in

the future while increasing standards of patient care and support.

Audit

As the NHSBT audit programme matures, we are handling ever more complex audits which have little or no precedent, and in some cases where there is little evidence to define best practice. Yet designing and operating these audits is paramount since we continually see inappropriate use of transfusion and sub-optimal patient care.

Good design, thorough piloting and honest evaluation are the hallmarks of our audits, and we are currently addressing three audit topics that present more design and piloting challenges than usual: An audit of the use of Anti-D, an audit of patient information and consent and an audit of the management of patients with Sickle Cell Disease and Thalassaemia.

In August 2012 we embarked on the design of a smaller audit that looks at the management of patients with traumatic brain injury, subarachnoid haemorrhage and acute ischaemic stroke. This audit heralds a change in our audit approach, moving away from a product-based audit towards a condition-based audit, since auditing the use of a product in isolation does not give us the full picture about patient management, and products whose use we have not audited may be used inappropriately.



Blackpool Victoria Hospital, first to sign up to stock management pilot.

“The pilot has given us the opportunity to look at our stock holding of blood and platelets, and the data collection activity has provided us with evidence of the number of times we actually place orders each day. By improving our stock holding, ordering times and delivery times, we can make best use of our resources and free up lab-based staff to focus on other areas of work.

Ultimately for me, the main objective of this work is to reduce any red cell and platelet wastage.”

Elaine Addison, Blood Bank manager

Organ Donation and Transplantation

What we do

NHSBT is the UK organ donation organisation responsible for all aspects of the donation process, and for matching and allocating solid organs and corneas for transplantation throughout the UK. We also monitor post-transplant outcomes and manage and promote awareness of the NHS Organ Donor Register.

Since the recommendations made by the Organ Donation Task Force in 2008 we have established Specialist Nurses and Clinical Leads for Organ Donation in hospitals throughout the UK. These dedicated staff are working alongside hospital Donation Committees and Hospital colleagues to make organ donation the usual practice.

Performance highlights

2012-13 saw the achievement of the target to increase organ donation by 50%, which was set by the Organ Donation Task Force five years ago, had been met.

The increase over the 2007-08 financial year baseline meant that more than 3,100 lives were transformed in 2012-13 through a deceased donor organ transplant.

Other key achievements at a glance

In 2012-13:

- The number of deceased organ donors hit a record 1,212
- The number of people on the Organ Donor Register rose to nearly 20 million
- The number of kidney transplants from living organ donors rose to 1,066 – up from 1,009 in 2011-12
- The number of non-directed altruistic kidney donors continued to rise significantly, with 76 people choosing to donate a kidney to a stranger, compared to 34 in 2011-12
- Corneal supply changed from pre-order to on demand as sufficiency of supply improved to meet demand and 3,615 people had their sight restored through a cornea transplant



- Despite the sudden withdrawal of Viaspan, a solution used during the donation process, a collaborative approach to obtaining an alternative supply meant that the kidney transplant programme continued without hindrance
- Despite these achievements, around 10,000 people in the UK are still in need of an organ transplant
- A new UK strategy, Taking Organ Transplantation to 2020, was developed during 2012-13 and will be published in 2013.

Headline facts and figures – 2012-13

Aside from the overall 50% increase in organ donation from the 2007-08 baseline, 2012-13 saw many further improvements in donation and transplant rates.

They included:

- An 8% year-on-year increase in donors after brain death – up to 705 from 602
- A 16% increase in donors after circulatory deaths, up to 507 from 436
- A 6.8% increase in overall transplants from deceased donors, with 3,112 in 2012-13 compared to 2,913 in 2011-12.

Case study: Leah Davies

Leah Davies died aged just 19 in August 2012 following a motorcycle accident which also claimed the life of another teenager.

However, she was passionate about both blood and organ donation and as a result, her family wholeheartedly agreed to donate her kidneys and liver to help save others. (Leah's other organs were unsuitable for transplant due to her injuries).

Leah's father Andy, mother Mandy and sisters Sarah and Rachel have also helped ensure more positives have come out of their tragic loss by helping NHSBT promote organ donation, including appearances on ITV's This Morning and BBC Breakfast.

Special blood donor sessions have also been held in Leah's memory.



In a statement, Leah's family said: "During her lifetime, Leah was an avid supporter of organ and blood donation and would have encouraged everyone she knew to give this some careful thought and discuss it with your family.

Because of her generosity she was able to help other patients and families by donating her organs.

"We will all miss her greatly but we take comfort in the joy she gave us and the gift of life that she has brought to others."



Making Donation Usual

There are nearly 20 million people on the NHS Organ Donor Register (ODR) and numbers are steadily increasing. Despite these numbers, on average, three people a day die because there are not enough organs available for transplant. This is because, despite more than 500,000 people dying each year in the UK, fewer than 5,000 people currently die in circumstances where they can become a donor.

In 2012-13, 1,212 families supported their loved ones wish to help others after death and more than 3,100 lives were transformed as a result. However, even though some individuals had signed up to the Organ Donor Register, their families overruled their stated intention.

When asked, the vast majority of people say they support organ donation, yet almost half (45%) of potential donors' families do not allow their organs to be donated. When a relative is on the ODR, over 90% of families will honour their wish to become an organ donor. Our challenge is that only around 40% of families agree, where the potential donor is not on the ODR and their wishes may not be known.

We need a transformation in donor and family consent to organ donation because the UK's family refusal rate remains one of the highest in Europe.

Taking Organ Transplantation to 2020

A new UK strategy, Taking Organ Transplantation to 2020, was developed during 2012-13 and will be published in 2013.

Without organ donation there can be no transplantation. The strategy sets out what needs to be done and the responsibilities on each of us, to ensure that every potential donation and transplantation is realised.

Developed through consultation with all of our many stakeholders and the general public, the strategy requires the NHS, public and professional organisations to work together to make sure everyone needing a transplant gets one. To support this NHSBT will call on the public for a revolution in attitudes to consent to donation. Without that, the UK will never achieve the best global outcomes in saving more lives through organ transplantation.

In addition to a change in public attitudes, the NHS will continue to play its part. Specialist Nurses in Organ Donation (SN-ODs) will continue to approach, work with and care for potential donor families. Clinical Leads in Organ Donation (CL-ODs) will continue to promote donation at trust and hospital level and our donation committees will continue to promote donation at local and community level.

Latest update on the opt-out bill in Wales

In 2012-13 the proposed Human Transplantation Bill progressed through the relevant scrutiny and debate stages in the Welsh Assembly.

People living in Wales who die in circumstances where they can donate organs will automatically be deemed to have consented to donation unless they have recorded a refusal to donate in advance. We expect the Bill to be passed by the end of July. However, full implementation of the new legislation is expected by 2015.

This is likely to result in the need to develop a new organ donation register for the UK that would support both opt-in and opt-out systems. We are in the process of working the implications of this with all the UK Health Departments.

Raising Public Awareness

Transplant Week 2012

'Pass It On' was the theme of Transplant Week in July 2012, which saw NHSBT staff and clinical colleagues emphasising the importance of people discussing their wishes regarding organ donation with their families.

Figures show that family support rates for organ donation more than double from around 40% when someone's wishes are not known, to around 90% when they are known.



Paul Dallison receiving the 'Organ Donation Through a Lens' award from NHSBT Chairman Bill Fullagar.



To get across the 'Pass It On' message to the public, Transplant Week included a film competition for aspiring filmmakers, extensive coverage in the media and events at hospitals around the UK.

Overall winner was Paul Dallison from Liverpool with his film 'The 4th Emergency Service'. Paul had spoken with an organ recipient, someone waiting for an organ and the family of someone who sadly died waiting for a donor, making for a truly inspirational film. The response was such that we have decided to run another competition for Transplant Week 2013.

ITV 'From the Heart' campaign

In February 2013, NHBST worked closely with ITV to launch a major campaign promoting organ donation to millions of the broadcaster's viewers.

'From The Heart', which ran during Valentine's week, saw ITV highlight the shortage of donated organs in the UK a special week of activity on-air and online.

Using moving case studies of people whose lives have been affected by organ donation, viewers were encouraged to volunteer to join the ODR and talk to their loved ones about their wishes.

Programmes including Daybreak, Lorraine and This Morning supported the campaign, along with regional and national ITV newsrooms.

ITV's current affairs show 'Tonight' also focused on organ donation in an hour-long special, followed by a one-off prime-time entertainment show, which featured a host of star names, who lent their support to the campaign.

Thanks to the transplant units, clinical staff and case studies that made the campaign possible, From the Heart generated a huge response from the public. As a result of the campaign, 61,900 new people joined the Organ Donor Register.

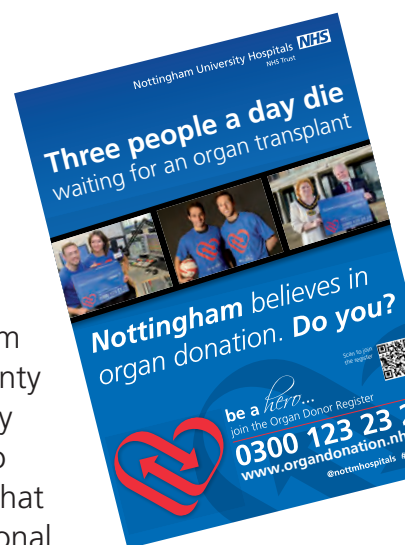
Engaging BAME communities

NHSBT is a member of the National BAME Transplant Alliance (NBTA). The NBTA is promoting awareness of donation in black, Asian and minority ethnic groups. We have continued

our initiatives aimed at increasing the awareness among BAME communities. During the last year, there has been a small increase in the number of donors identifying themselves as BAME on the Organ Donor Register. Still more needs to be done to improve this, because an organ is more likely to be a close match, and as a result a transplant is much more likely to be successful, if the donor and recipient have the same ethnic origin.

Regional events and activities

On 1 January 2013 Nottingham University Hospitals launched the 'be a hero' campaign. Support from both local football teams, the County and City Councils, Nottingham City Transport and a local MP helped to create publicity for the campaign that gained extensive coverage on national and local TV, radio and in print. During January to April more than 5,500 people in Nottinghamshire joined the Organ Donor Register.



Case study: Parveen and Faizan Awan

Faizan Awan, aged 27, has lived with renal failure from a young age and first needed major surgery when he was just three years old.

He has had two kidney transplants – one from a deceased donor, and one from his father, and may need another in the future.

Faizan's story inspired his mother Parveen to raise awareness of the need for organ donors within her local Asian community in Blackburn. She is also the founder and chair of Blackburn and District Kidney Support Group and raises awareness of the need for blood donors.

She said: "We assume that people know that blood and organ donation is needed but when I start speaking to people they often have no idea.

"In addition to Faizan having his two transplants, my nephew died aged just eight because he needed a heart transplant and he didn't get one in time. A lot of people never go through these things so they don't think about blood and organ donation, but when you see these things first-hand your perspective changes."

Research & Development and Governance

Research and Development to save more lives

Major improvements in the science of organ transplantation have led to vastly improved outcomes over recent decades, but the demand for organs has continued to increase. This has led to more organs being considered suitable to transplant as the alternative would be people dying on the waiting list. It is vital that we have as much information as possible about which organs can and can't be used.

To increase the number of transplantable donor organs a better understanding of the ways these organs are damaged and then

subsequently repair themselves is vital, and will lead to new ways to distinguish between reversible and irreversible damage and eventually reduce unnecessary discard of valuable donor organs in the UK.

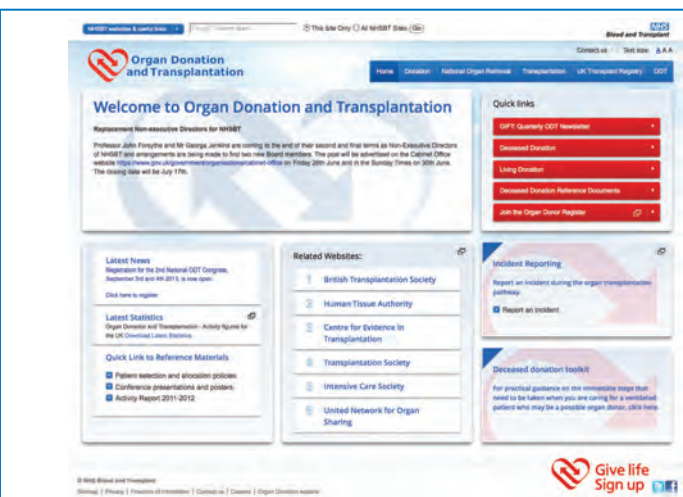
Over the next three years we will allocate considerable funds to research projects designed to explore ways to increase the number and quality of transplantable organs in the UK, and to improve function after transplantation and increase graft survival through our Quality in Organ Donation (QUOD) programme.

Transplant outcomes

The shortage of donor organs for transplantation means that surgeons need to consider using organs that are higher risk or sub optimal. Recent work in this area has looked at using lungs from donors with a positive smoking history. A paper was published in the Lancet (Lancet 2012; Early Online Publication, 29 May 2012).

Currently in the UK, the number of people needing organ transplants exceeds the donor organs available. This report found that a patient's chance of survival is higher if they receive lungs from donors with a smoking history, than if they remain on the waiting list for a transplant from a donor with no history of smoking.





Smartphone's and tablet devices, allowing easy access to up-to-date information.

The Electronic Offering System (EOS) used by transplant centres to view information about available organs, and their donors, launched a new service EOS Mobile in January 2013. This will speed up and simplify the process of providing that information with 24/7 access to it on mobile devices.

Improved access to transplant information

Access to clinical organ donation and transplant information was greatly improved by the launch of NHSBT's new ODT Clinical website in 2012-13.

The website (www.odt.nhs.uk) provides easy access to guidance, policies, best practice and statistics about organ donation and transplantation.

Primarily aimed at healthcare professionals, but available to all, it provides information about organ donation and retrieval, the selection of patients for transplantation, allocation policies, and outcomes after transplantation.

The website has been developed in response to feedback from clinicians and has been designed to be compatible for viewing on

Implementing the EU Organ Donation Directive

NHSBT ensured all obligations were met for the EU Organ Donation Directive (EUODD), which was implemented across the UK in August 2012. The EUODD has been written into UK law through the Quality and Safety for Transplantation Regulations 2012. EUODD sets minimum standards that must be met across all countries in the EU, ensuring the quality and safety of human organs for transplantation.

Viaspan withdrawal

At the end of March 2012, NHSBT was contacted by the Medicines and Healthcare Products Regulatory Agency (MHRA) to advise that batches of Viaspan may have been contaminated and the manufacturers were planning to withdraw the product and halt further production until the problem was corrected.

Viaspan is a fluid used to preserve abdominal organs during retrieval, storage and transportation and was in use by all abdominal organ retrieval teams in the UK and many others around the world.

Representatives from NHSBT, Department of Health, MHRA and the Health Protection Agency (HPA) agreed that NHSBT would work with the Commercial Medicines Unit to procure sufficient stocks of alternative fluids to cover retrieval activity until Viaspan was once more available.

The procurement team at NHSBT rapidly sought tenders from fluid manufacturers and by the end of April, alternative sources were secured.

Under normal circumstances this project would have taken up to six months. However, due to the urgency to find alternatives, the procurement process was fast-tracked and ensured retrieval activity and recipient safety was not compromised.



Diagnostic and Therapeutic Services

Diagnostics and Therapeutic Services is a new and varied directorate.

Diagnostic and Therapeutic Services (DTS) brings together:

- Tissue Services
- Diagnostics: Red Cell Immunohaematology (RCI) and Histology & Immunogenetics (H&I)
- Stem Cell Services and Cord Blood Bank
- Specialist Therapeutic Services
- Customer Services
- Emergency Planning and Business Resilience.

It was created to focus on understanding customer needs and to develop NHSBT by better anticipating future demand.

DTS manages all of the Specialist Business Units of NHSBT, leads the customer focused end of the blood supply chain (hospital liaison) and is responsible for developing the Integrated Transfusion Services element around Red Cell Immunohaematology and hospital transfusion laboratories.

Highlights

In 2012-13:

- Our specialist laboratories carried out 50,000 investigations in RCI and 200,000 investigations in H&I
- Provided 4,000 patient treatments in our Specialist Therapeutic Services units
- Over 2,000 cords were banked during the year of which over 40% were from Black and Minority Ethnic (BAME) communities
- We collected 188 adult stem cell donations to treat patients in the UK and Internationally
- There were 5,800 tissue donations, helping 2,600 patients
- New Tissues products, decellularised dermis and demineralised bone have been successfully used to treat patients
- Extracorporeal Photopheresis (ECP) services have been extended over 2012-13. The STS unit in Manchester has relocated to the Christie Hospital and our unit in Bristol is now offering this therapeutic service
- Customer satisfaction (measured as the percentage of customers scoring nine out of ten or higher for overall service) was 62% for our Red Cell Reference services and 68% for Histocompatibility and Immunogenetics services better than target for both.

Tissue Services

NHSBT Tissue Services is now the largest multi-tissue banking organisation in the UK. It is a significant leader in the development of national and international standards, policies and regulation in the field. An integral, very active Research and Development department ensures that new processes and services are continually introduced to support improved tissue repair and replacement therapies for patients.



Ava King with Simon Weston, who also spoke to Tissue Services staff in Speke.

At our annual review day for Tissue Services staff in January, Simon King visited our centre in Speke with his daughter Ava, aged 3, to share her story. At just ten days old, Ava needed a new heart valve and underwent intensive surgery to save her life. She is now a beautiful, healthy girl who spontaneously got up and shook all our hands while thanking us for mending her heart – it moved many of us to tears.

The development of a new tissues strategy started during 2012-13 and is in progress.

NHSBT Tissue Services is the sole supplier of certain critical tissue products to the NHS that are ethically and transparently sourced from UK donors. NHSBT has the capability to provide bespoke services for unmet clinical needs that are not readily available commercially and can provide these products and services cost effectively to the NHS.

Tissue Services manages the entire tissue donation process (from donor consent, retrieval, tissue processing, and storage through to its distribution to hospitals). The main tissue bank is located in Liverpool and supported by retrieval teams based in Leeds and London.

We are the sole or major supplier of many tissue products to the NHS including skin, femoral heads, tendons, autologous serum eye drops, meniscus, arteries and massive allografts.

We bank and supply tissue grafts from around 400 deceased tissue donors per year and respond on a 24-hour basis to over 4,000 donor referrals.

We also offer a live bone donor programme, where patients who are having hip replacement surgery

can donate the bone they are having removed. We currently work with 75 hospitals to run this program, and bank bone from more than 3,000 living donors.

Strategic Plan: 2013-18

Tissue Services' Strategic Plan for 2013-18 was approved by NHSBT's board in September 2012.

The plan set out the division's intent to be recognised by the NHS as the preferred provider of high quality, cost effective tissue allografts in England, Wales and Northern Ireland.

In order to achieve this ambition, five strategic goals were defined in the plan, including providing high-quality care for donor families and delivering financial surpluses that can be re-invested into further product development and/or lower prices for hospital customers.

New Developments

- May 2012 saw a 92-year old woman become the first patient in the UK to be completely healed by a decellularised dermis graft, developed by Tissue Services in Liverpool. Patient Jessie Townley's revolutionary treatment resulted from a collaborative clinical trial between NHSBT and University Hospital South Manchester

- Our Demineralised Bone Matrix was used for the first time in patient who needed a neck fusion for severe neck and arm pains
- 2012-13 saw a new dedicated marketing team appointed to further many of the objectives outlined in Tissue Service's Strategic Plan.



Brian Girdwood, the first patient to receive our new Demineralised Bone Matrix during bone graft surgery. Consultant Spinal Surgeon, Iona Collins, who performed the operation said:

"It's great that we're the first hospital in the UK to use DBM from the NHS.

"By switching suppliers from a profit making private company to an NHS non-profit source, not only are we able to make financial savings, but, more importantly, potentially improve patient safety.

"By using NHS-sourced DBM, we know exactly where each vial has come from. So, one vial of DBM comes from one UK donor alone. By comparison, the DBM supplied from industry tends to be made from the pooled donations of multiple donors."

Diagnostic Services

NHSBT provides a range of highly specialised diagnostic services to NHS hospitals in support of blood transfusion and the transplantation of organs, tissues and stem cells. These services are delivered from a national network of laboratories managed by a highly skilled and dedicated workforce, supported by modern equipment and a national IT system.

Histocompatibility and Immunogenetics (H&I)

The H&I laboratories support haematopoietic stem cell and solid organ transplant programmes at hospitals throughout England. They also provide immunogenetic services for a number of diseases and investigate transfusion related immunological reactions and provide HLA and HPA compatible products when required. The lab at Filton also provides platelet immunology and granulocyte immunology services.

Red Cell Immunohaematology (RCI)

The work of the RCI function is divided into two main activities: red cell reference serology and the production, validation and supply of blood grouping reagents.

The work of a red cell reference laboratory is largely based around the extended serological investigation of samples referred by hospital blood transfusion laboratories, who have identified problems during pretransfusion testing. Determination of the specificity of red cell antibodies in potential recipients of blood is a common request, as this process may require specialist reagents and expertise. Other serological problems include the investigation of immune haemolytic anaemias, and the resolution of blood grouping anomalies. In many cases the hospital transfusion laboratory requests that RCI undertakes crossmatching appropriate blood for hospital patients.

Blood grouping reagents, red cells for ABO/D grouping, screening and identification of antibodies, control reagents and quality assessment exercises are supplied by the Reagents Unit for NHSBT use and for sale to NHS and other customers.

Sp-ICE (Specialist Services Electronic Reporting using Sunquest ICE)

This new online service provides RCI and H&I results electronically, to hospital customers. Their feedback shows that RCI results are being received up to three days earlier than the previous paper copies. The roll

out continues to more hospitals and further work is being done to extend this to other areas of diagnostics.

Strategy

Our RCI and H&I services will continue to work closely with hospitals to ensure that testing and matching activity is carried out efficiently, accurately and speedily for patients. Specifically, we will complete the implementation of Sp-ICE and we will work with partners to review and develop the options for RCI and the potential integration of transfusion services.



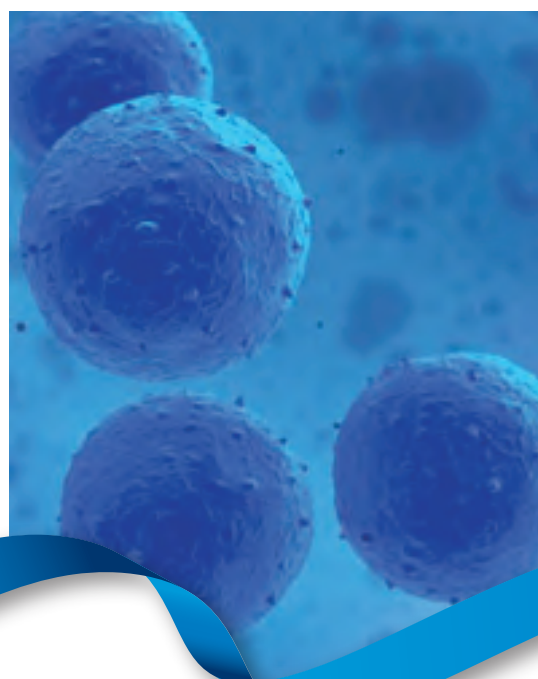
Stem Cells

We work with partners across the UK, especially the charity Anthony Nolan, in the provision of an efficient and effective source of donor haemopoietic stem cells for the treatment of UK patients and provide translational services in support of the development of innovative cell therapies for NHS patients. Our national network of facilities and expertise has allowed us to become a preferred partner to the NHS, academic and commercial organisations and to access Government funding to develop the next generation of highly personalised cell therapies for patients who need a transplant.

We have over 300,000 donors who are willing to donate their stem cells to patients having treatment for conditions such as leukaemia. Donors come from the British Bone Marrow Registry (BBMR) and the NHS Cord Blood Bank, both of which we run.

2012-13 saw a huge increase in activity which saw the BBMR exceed its target for donor provision. These potential donors are listed on the UK Aligned Registry (BBMR and Anthony Nolan) which can be accessed by Transplant Centres in the UK and on Bone Marrow Donors Worldwide, a global database, for access by overseas Transplant Centres.

There has been a huge effort by the BBMR team to improve operational effectiveness, which has resulted in reduced turnaround times between search and provision, higher resolution typing of segments of the donor panel most likely to be selected by transplant centres, and hard work by the blood



service recruitment teams to recruit blood donors on to the BBMR Register.

The funding will mean that cord blood collection centres will continue to collect cord blood to increase the amount of suitable stem cells available. It will also be used to improve the current register of young adult donors, meaning patients will not have to wait as long for a transplant.

The NHS Cord Blood Bank collects stem cells from umbilical cord blood at six NHS Hospitals:

- Barnet General Hospital
- Northwick Park Hospital
- Luton and Dunstable Hospital
- Watford General Hospital
- University College Hospital
- St George's Hospital.

We currently have approaching 12,000 donations banked, which are available to any patient who needs a stem cell transplant in the UK or abroad. It is the fourth largest internationally accredited cord blood bank in the world, with the second highest percentage of rare tissue types.



Case study: Stem cell donor

A 19-year-old blood donor studying to become a personal trainer has become the 2,200th person on the NHSBT British Bone Marrow Registry (BBMR) to donate stem cells. Henry Elliott travelled from his home in Melton Mowbray to London in December to donate stem cells for an unknown patient.

Says Henry, "I have been a blood donor for a couple of years now and it's great to know I helped people through giving blood whilst I was waiting to be a bone marrow donor. I decided to donate bone marrow because it's the right thing to do. It was a great experience and I'm looking forward to the next time I'm called up."

Specialist Therapeutic Services (STS)

Specialist Therapeutic Services (STS) has six units across the country that deliver a range of life-enhancing and life-saving therapeutic apheresis treatments for patients. They are provided using specialist machines that exchange, remove, or collect certain components within the blood through a process called Therapeutic Apheresis which then allows secondary treatment processes to take place. In 2012 the first STS strategy was created.

During 2012-13 all six Specialist Therapeutic Services units were inspected by the Care Quality Commission and declared compliant with the standards that were assessed.

Service moves to the Christie Hospital

In 2012 NHSBT's Specialist Therapeutics Service moved to The Christie NHS Foundation Trust's main site in Manchester. The specialist unit offers extracorporeal photopheresis therapy which is used to treat patients with conditions including graft-versus-host disease (GVHD) and for severe cases of cutaneous T-Cell Lymphoma. Patients from across the North West will benefit, the move allows NHSBT to meet increasing demand and it also places patients close to treatment and services provided by The Christie.

New service for the South West of England

An extracorporeal photopheresis service (see above), provided by Specialist Therapeutic Services in Bristol and University Hospitals Bristol NHS Foundation Trust, launched in 2012.

The new unit gives patients from the South West of England and Wales better access to the treatment. Before this, they would have to travel to London or Southampton. In late 2013 the service will move from the NHSBT site at Southmead Hospital into the trust, further improving access and placing it in the most appropriate clinical background.

Patient therapies

The highest ever number of patients received treatments by our teams, with 4,000 patient treatments during the year. We offer Therapeutic Plasma Exchange, Red Cell Exchange, Peripheral Blood Stem Cell collection, Granulocyte Collection, Platelet Depletion, White Cell Depletion, Low Density Lipid Removal, Extracorporeal Photopheresis and Lymphocyte Collection.

Clinical & Research and Development

NHSBT is a leading scientific blood and transplant organisation.

Our Clinical Directorate brings together the specialists responsible for the care and treatment of donors and patients and the Research and Development teams across all operational areas of NHSBT.

NHSBT clinicians provide expert clinical advice and support to hospital colleagues. They are also involved in the care of patients.

We work with leaders in the UK and internationally in the fields of donation, transfusion and transplant to improve donor and patient safety and patient outcomes.

Our Research and Development programmes demonstrate the continuing contribution that we are making in the fields of patient and donor health.

Key achievements

- The NHSBT R&D Triennial Report 2009-12 was published
- During 2012-13 we had Published papers in 64 journals. Including 3/4 Published in Nature
- A cutting-edge donor health research study commenced. The INTERVAL study will determine whether donors can safely donate blood more frequently than the current guidelines
- QUOD, a research project to predict which organs can be used, along with strategies to maintain their viability between donation and transplantation.



NHSBT Clinical Research and Development delegates at their Annual Conference.



Research and Development

Research and Development is fundamental to NHSBT, to deliver even safer and more effective treatments for patients in the future.

Research across NHSBT now involves 17 Principal Investigators, nearly 200 staff and a total budget of £16 million a year. The main research sites, in collaboration with University partners, are Cambridge, Oxford, London and Bristol, with specialist activity in Birmingham and Liverpool.

Our supporting infrastructure consists of the Clinical Biotechnology Centre (Bristol), which manufactures GMP-grade biologicals for Phase 1 clinical trials, the NHSBT/MRC Clinical Studies Unit (Oxford/Cambridge/London), which supports clinical studies and trials, the Systematic Reviews Initiative (Oxford) and the Statistics and Clinical Audit team (Bristol).

Our world class research programmes follow eight research themes:

1. Donor health and behaviour
2. Transfusion and transplantation virology and microbiology
3. Appropriate and safe use of blood components
4. Erythrocyte (red cell) biology and immunology
5. Platelet biology and genomics
6. Organ donation and transplantation
7. Stem cells and immunotherapies
8. Molecular and tissue engineering.

Triennial Report

The Research and Development Triennial Report, published in September 2012, highlights the wide-ranging contribution our work is making to patient and donor care.

Dr Lorna Williamson, Medical and Research Director said: "Our teams of researchers should be very proud of the work achieved in the past three years. They have played a major part in improving the health and wellbeing of patients and donors alike, and confirming NHSBT's position at the forefront of research and development in its field.

Lorna added: "An active R&D programme contributes significantly to our reputation for scientific excellence in all we do, and enables us to attract medical and scientific talent to work with us to save and improve lives."

The Report can be found online at www.nhsbt.nhs.uk/triennial-report/



The report includes details of our research projects including:

- The development of a method for generating red cells in the laboratory from stem cells, found in the waste products of normal blood donations. The very young red cells have been shown to have normal function. These results mean that red cells grown in culture could be used for patient treatment in the future if the numbers of red cells grown can be expanded
- Two new tissue grafts have been developed. De-cellularised dermis, which can be used to treat burns, non-healing ulcers, rotator cuff injuries and in breast reconstruction. Demineralised bone matrix will be used to enhance

repair and new bone formation, as it is made into a paste and putty, it can be moulded and pressed into the size and shape of a defect

- In the UK, one in 350 pregnant women will develop antibodies against their baby's platelets. Fetomaternal alloimmune thrombocytopenia (FMAIT) can be a devastating disease leading to either death of fetuses in the womb or to bleeding in the baby's brain and long-term disability. We have developed a new compound that would prevent platelet destruction in the baby by the maternal antibodies
- Identifying the genes responsible for two inherited platelet disorders. Gray Platelet Syndrome leads to the production of platelets lacking the ability to stimulate each other and therefore they will not clump together to form a clot. The second disorder, Thrombocytopenia with Absent Radii leads to the birth of children with very low platelet count and substantial bleeding risk especially in the first year of life and with bone abnormalities, notably the absence of one of the long bones in the forearm.

NHS Blood and Transplant

NHS Blood and Transplant (NHSBT) saves and improves lives by providing a safe and reliable supply of blood components, organs, stem cells, tissues and related services to the NHS, and other UK health services.

For more information

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